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A FRAMEWORK FOR ALTERNATIVE ENERGY DEVELOPMENT: SHIFTING FROM DRILLING RIGS TO RENEWABLES

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Abstract: In the age of $100-a-barrel oil and global warming, the development of sources of alternative energy is a critical component of political and popular discourse. Recently, the Energy Policy Act of 2005 increased funding and tax credits for clean alternative energy. Several projects involving industry and local regulators have been progressing through the planning and development stages. Yet, despite the favorable political and regulatory climate surrounding alternative energy projects, such projects continue to encounter resistance because of projected costs and local "not in my backyard" (NIMBY) concerns. One program which would minimize costs and NIMBY-type reactions is "Rigs to Renewables," which would place renewable energy stations on obsolete offshore oil rigs. In order to establish an adequate legal and regulatory framework for this program, its creators should incorporate the strengths of the existing "Rigs to Reefs" program, while improving on its weaknesses.

INTRODUCTION

As concerns about traditional sources of energy have grown, government, industry, and media have paid increasing attention to the development of potential alternative energy sources.[1] The Energy Policy Act of 2005 increased funding for clean alternative energy by twenty-two percent and included tax credits and additional incentives for alternative energy development.[2] Several major alternative energy projects are in the planning and permitting stages.[3] Unfortunately,

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[1] *See* Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (codified as amended in scattered sections of 42 U.S.C.A.); U.S. DEP'T OF ENERGY, ON THE ROAD TO ENERGY SECURITY 1 (2006), *available at* http://www.energy.gov/media/FINAL_8-14_DOE_booklet_copy_sep.pdf.

[2] Energy Policy Act of 2005, 42 U.S.C.A. § 2102 (2005); U.S. DEP'T OF ENERGY, *supra* note 1, at 1, 4. Among the Energy Policy Act's incentives is an extension of federal tax credits for the development of solar, wind, and biomass energy sources. *Id.* at 4. The Act also streamlines the licensing procedure for hydroelectric plants. *Id.*

[3] NAT'L COMM'N ON ENERGY POLICY, SITING CRITICAL ENERGY INFRASTRUCTURE: AN OVERVIEW OF NEEDS AND CHALLENGES 1–2 (2006), *available at* http://www.energycommis-

many of these projects have encountered resistance in the project siting stage.[4] Local governments, interest groups, and ordinary citizens often recognize the potential benefits of the projects, but dispute the choice of the site closest to them.[5] Such local opposition has been referred to pejoratively as "not in my backyard" (NIMBY) syndrome because these groups oppose the projects despite the potential benefits simply because of the projects' proximity to their residences.[6]

Given such local opposition, it would be beneficial to renewable energy development to implement projects that minimize potential objections on siting grounds.[7] One such project, proposed by the Ocean Renewable Energy Coalition (OREC), would use old offshore oil rigs as renewable energy stations.[8] The rigs would form the platform on which structures that harness renewable energy would be placed.[9] Tentatively called "Rigs to Renewables," the project would adequately address most NIMBY concerns because oil rigs are located miles offshore.[10]

Rigs to Renewables would also have the advantage of creating a use for rigs that the oil industry otherwise would be required to disassemble, at great cost both to industry and to the environment.[11] This element of

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sion.org/files/contentFiles/Siting%20Critical%20Energy%20Infrastructure_448851db5fa7d.pdf. Examples of such projects include the Cape Wind project off the Massachusetts coast, a projected cross-channel transmission line from Connecticut to Long Island, and efforts to locate liquefied natural gas terminals in New Jersey and Maine. *Id.*

[4] *Id.* at 2; Shalini P. Vajjhala, Resources for the Future, Siting Renewable Energy Facilities: A Spatial Analysis of Promises and Pittfalls 3 (2006), *available at* http://www.rff.org/documents/RFF-DP-06-34.pdf.

[5] *See* Nat'l Comm'n on Energy Policy, *supra* note 3, at 2.

[6] Robert D. Kahn, *Siting Struggles: The Unique Challenge of Permitting Renewable Energy Power Plants*, Electricity J., Mar. 2000, at 21, 26. The NIMBY syndrome has become such a recognized part of planning for project siting that it has been supplemented by a new term, BANANA, which stands for "build absolutely nothing anywhere near anything." Vajjhala, *supra* note 4, at 3.

[7] Nat'l Comm'n on Energy Policy, *supra* note 3, at 1; *see* Vajjhala, *supra* note 4, at 5.

[8] Ocean Renewable Energy Coalition, OREC Works with Others to Secure Funding for Ocean Energy (July 9, 2006), http://www.oceanrenewable.com/2006/07/09/orec-works-with-others-to-secure-funding-for-ocean-energy; *see* John Geoghegan, *Inherit the Wind*, Wired, Feb. 15, 2007, at 34.

[9] *Developing Untapped Potential: Geothermal and Ocean Power Technologies: Hearing Before the Subcomm. on Energy and Environment, H. Comm. on Science and Technology*, 110th Cong. 58, 63 (2007) (statement of Sean O'Neill, President, Ocean Renewable Energy Coalition); Geoghegan, *supra* note 8, at 34.

[10] *See* Geoghegan, *supra* note 8, at 34.

[11] *See* Les Dauterive, U.S. Dep't of the Interior, Rigs-to-Reefs Policy, Progress, and Perspective, at iv (2000), *available at* http://www.gomr.mms.gov/PDFs/2000/2000-073.pdf; Minerals Mgmt. Serv., U.S. Dep't of the Interior, Offshore Facility Decommissioning Costs: Pacific OCS Region, at ii tbl.1 (2004), *available at*

the program would provide incentives for the participation of the oil industry, which traditionally has been opposed to renewable energy projects.[12] Furthermore, Rigs to Renewables would minimize NIMBY opposition, while taking advantage of the favorable political and regulatory climate regarding renewable energy development.[13]

In addition to its compelling political and economic incentives, Rigs to Renewables would require a proper regulatory and legal framework to operate effectively.[14] This framework must allow Rigs to Renewables to achieve its policy objectives, while addressing legal issues that will inevitably arise in a program that involves extensive cooperation between government and industry.[15] Because the government will play an active role in the placement and development of rigs in government waters, federal legislation and regulation likely will form the backbone of this framework.[16] The program must delineate what government agencies have jurisdiction, and should describe procedures for site selection, permitting, and construction of renewable energy stations.[17] Moreover, because Rigs to Renewables involves the use of private industry assets—oil rigs—for the public good, the framework must also define the role of private parties in the program, including the extent of private legal liability if an accident occurs on a rig during the implementation of the program.[18]

There are two potential options in addressing the issues that will arise in the development of Rigs to Renewables. The first option is to

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http://www.mms.gov/omm/pacific/lease/2004_final_decommissioning_cost_report_rev_1.pdf [hereinafter DECOMMISSIONING COSTS].

[12] *See* DAUTERIVE, *supra* note 11, at iv; *see, e.g.*, Jon Birger Skjaerseth & Tora Skodvin, *Climate Change and the Oil Industry: Common Problems, Different Strategies*, GLOBAL ENVTL. POL., Nov. 2001, at 43, 44 (discussing American oil companies' opposition to the Kyoto Protocol and reluctance to support renewable energy technology).

[13] *See* Geoghegan, *supra* note 8, at 34; U.S. DEP'T OF ENERGY, *supra* note 1, at 1.

[14] *See* NAT'L OCEANIC & ATMOSPHERIC ADMIN., U.S. DEP'T OF COMMERCE, ARTIFICIAL REEF PLAN (AS AMENDED): GUIDELINES FOR SITING, CONSTRUCTION, DEVELOPMENT, AND ASSESSMENT OF ARTIFICIAL REEFS 1 (2007), *available at* http://www.nmfs.noaa.gov/sfa/PartnershipsCommunications/NARPwCover3.pdf [hereinafter REEF PLAN REVISION]; *see, e.g.*, MINERALS MGMT. SERV., U.S. DEP'T OF THE INTERIOR, DECOMMISSIONING AND REMOVAL OF OIL AND GAS FACILITIES OFFSHORE CALIFORNIA: RECENT EXPERIENCES AND FUTURE DEEPWATER CHALLENGES 18 (Frank Manago & Bonnie Williamson eds., 1997), *available at* http://www.mms.gov/omm/pacific/lease/Decommissioning/1998-023%20I.pdf [hereinafter DECOMMISSIONING AND REMOVAL] (describing the regulatory framework for the decommissioning of oil and gas facilities).

[15] *See* DAUTERIVE, *supra* note 11, at 1, 5; REEF PLAN REVISION, *supra* note 14, at 28.

[16] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. §§ 2101–2106 (2000); REEF PLAN REVISION, *supra* note 14, at 1.

[17] *See* REEF PLAN REVISION, *supra* note 14, at 1, 4.

[18] *See* 33 U.S.C. § 2104(c); REEF PLAN REVISION, *supra* note 14, at 14, 45–47.

create an entirely new legal and regulatory framework.[19] The second option is to model Rigs to Renewables after an existing program with similar goals and methods, such as the Rigs to Reefs program, which was established in 1984.[20] Incorporating aspects of the legal and regulatory framework of Rigs to Reefs into Rigs to Renewables would not only be more efficient than creating entirely new guidelines, but would also ensure that the successful aspects of Rigs to Reefs are incorporated effectively into Rigs to Renewables.[21]

Part I of this Note provides an overview of the Rigs to Reefs program. Because offshore oil rigs are the key resource in Rigs to Reefs, this part focuses on how rigs function, how the program uses them, and how decommissioning regulations govern the transition from rig to reef. Part II explains Rigs to Reefs' regulatory structure: federal enabling legislation established the program, a national plan describes the program's basic characteristics, and state plans provide the details necessary for the program's implementation.[22] Part III explains how Rigs to Renewables should incorporate the hierarchal structure that is the strength of Rigs to Reefs, while avoiding the inflexibility that limits the program's effectiveness.

I. Description of the Rigs to Reefs Program

Every offshore oil rig has the same basic structure and function.[23] Oil is extracted through holes dug in the ocean floor known as wells.[24] The drill that creates the holes is the rig.[25] The structure that sits atop the well and extracts the oil is the platform.[26] The term rig is commonly used to refer to what is actually the platform—thus, the name

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[19] *See* Reef Plan Revision, *supra* note 14, at 1.

[20] *See* 33 U.S.C. §§ 2101–2106; Reef Plan Revision, *supra* note 14, at 1. The NFEA's purpose is "to promote and facilitate responsible and effective efforts to establish artificial reefs in waters covered under this chapter." 33 U.S.C. § 2101(b). The National Artificial Reef Plan describes the purpose of Rigs to Reefs as an effort to preserve and enhance fisheries for commercial and recreational use by using obsolete oil rigs as breeding ground for marine life. Reef Plan Revision, *supra* note 14, at 1.

[21] *See* 33 U.S.C. §§ 2101–2106; Reef Plan Revision, *supra* note 14, at 4.

[22] *See* 33 U.S.C. §§ 2101–2106; Reef Plan Revision, *supra* note 14, at 4, 11; *see, e.g.*, La. Dep't of Wildlife & Fisheries, Louisiana Artificial Reef Plan, at vii (1987).

[23] Mark J. Kaiser & Allan G. Pulsipher, *Rigs-to-Reef Programs in the Gulf of Mexico*, 36 Ocean Dev. & Int'l L. 119, 119–21 (2005). There is some variation in the rig structure, but all structures consist of the same three elements: the rig itself—the drilling equipment—the platform supporting the rig, and the jacket supporting the platform. *Id.* at 121.

[24] *See id.* at 121, 124.

[25] *See id.* at 121.

[26] *See id.*

Rigs to Reefs refers to converting oil *platforms* to reefs.[27] It is these platforms that form the supporting structures for fish habitats.[28]

Under the Rigs to Reefs program, private rig owners donate rigs to state governments, which then convert the rigs to artificial reefs.[29] Rigs to Reefs developed from a joint initiative of two federal agencies—the Minerals Management Service (MMS) and the National Marine Fisheries Service (NMFS).[30] At the time that these two agencies started the program, a significant number of oil rigs in the Gulf of Mexico had recently stopped producing oil.[31] The MMS regulations required that the oil companies that owned the rigs disassemble them and remove them from the water.[32] Left in the water, the rigs were a potential hazard to ship navigation and to the environment.[33] However, removing the rigs was costly for industry.[34] Rigs to Reefs created a means for industry to avoid much of the cost of decommissioning by leaving the rigs intact in the water.[35]

Not only was Rigs to Reefs advantageous for industry, but the program would benefit environmentalists, as well as commercial and rec-

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[27] *See id.*

[28] *Id.* at 120.

[29] Kaiser & Pulsipher, *supra* note 24, at 119; DAUTERIVE, *supra* note 11, at iv.

[30] DAUTERIVE, *supra* note 11, at 1. The MMS is a department of the U.S. Department of the Interior. *Id.* The NMFS is a department of the U.S. Department of Commerce. REEF PLAN REVISION, *supra* note 14, at 6–7.

[31] Kaiser & Pulsipher, *supra* note 23, at 119, 120 fig.1. For example, as late as 1986, approximately twenty oil structures were removed from the Gulf of Mexico for lack of production; by 2003, over 140 structures were removed from the Gulf of Mexico for lack of production. *Id.* at 120 fig.1.

[32] Oil and Gas and Sulphur Operations in the Outer Continental Shelf—Decommissioning Activities, 30 C.F.R. § 250.1703 (2007) (describing general requirements for decommissioning). The MMS refers to the process of disassembling a rig and removing it from the water as decommissioning the rig. *Id.* The MMS has jurisdiction over offshore oil extraction. Outer Continental Shelf Management Act, 43 U.S.C. §§ 1331(b), 1334(a) (2000). The MMS is responsible for leasing the rights to mineral exploration and extraction on federally owned land, and for regulating the operation of the facilities used in the exploration and extraction process. *Id.* §§ 1331(a), 1334(a).

[33] *See* 30 C.F.R. § 250.1700(b); Kaiser & Pulsipher, *supra* note 23, at 124.

[34] DECOMMISSIONING COSTS, *supra* note 11, at ii & tbl.1. The cost to industry of decommissioning varies depending on the particular site and facilities involved. *Id.* at i. One MMS report estimated decommissioning costs of individual platforms in the Pacific outer continental shelf. *Id.* at ii. The least expensive platform cost approximately $10 million to decommission, the most expensive platform cost $129 million, and the average cost of decommissioning a platform was approximately $43 million. *See id.* at ii tbl.1.

[35] *See* DAUTERIVE, *supra* note 11, at iv. That is not to say that the oil industry may avoid all costs associated with decommissioning. *See, e.g.*, 30 C.F.R. § 250.1710. Rig owners that donate a rig to Rigs to Reefs must still ensure that the rig has been properly cleaned and *plugged* to prevent any remaining oil from leaking into the surrounding environment. *Id.*

reational fishermen.[36] Oil rigs provide ideal habitats for many species of fish and other marine life.[37] Using oil rigs as breeding grounds for marine life would serve conservation interests by providing additional habitats for many species, while providing additional sources of fish for commercial and recreational fishermen.[38]

Not all interested parties agreed that Rigs to Reefs was a good idea.[39] Indeed, some environmentalists claimed that leaving rigs in the water in any form was detrimental to the surrounding environment.[40] The MMS attempted to address this concern by requiring that rigs donated to Rigs to Reefs comply with the basic environmental requirements of the decommissioning regulations.[41] The MMS designed its decommissioning regulations to minimize the environmental impact of obsolete rigs to the greatest extent possible.[42]

Under Rigs to Reefs, basic decommissioning requirements still apply; however, the MMS exempts rig owners from the more onerous decommissioning regulations.[43] The MMS requires rig owners to undertake three principal steps under Rigs to Reefs, each of which requires them to address the potential environmental impact of decommissioning.[44] First, rig owners must get approval from the appropriate the MMS supervisor before decommissioning a rig or the facilities support-

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[36] Reef Plan Revision, *supra* note 14, at 2–3.

[37] MMS, Artificial Reefs: Oases for Marine Life in the Gulf, http://www.gomr.mms.gov/homepg/regulate/environ/rigs-to-reefs/artificial-reefs.html (last visited Mar. 31, 2008). Oil rigs are a particularly ideal habitat in the Gulf of Mexico, which has a flat, sandy bottom generally not suitable as a habitat for most types of marine life. *Id.* The oil platforms provide points around which marine life can congregate and grow. *Id.*

[38] Reef Plan Revision, *supra* note 14, at 2–3. For example, one study estimated that seventy percent of Louisiana fishing expeditions target oil platforms converted into artificial reefs, which is a testament to the effectiveness of oil platforms as breeding grounds for marine life. *See* Donna M. Schroeder & Milton S. Love, *Ecological and Political Issues Surrounding Decommissioning of Offshore Oil Facilities in the Southern California Bight*, 47 Ocean & Coastal Mgmt. 21, 21–30 (2004).

[39] Schroeder & Love, *supra* note 38, at 30. Some community groups opposed Rigs to Reefs simply because the oil companies seemed to reap excessive benefits from the program. *Id.* For example, a representative from one group opposed to Rigs to Reefs in California stated, "We're not convinced that the alleged scientific benefit to habitat is worth the sort of larger social encouragement it gives the oil companies." *Id.*

[40] *Id.* at 30–31.

[41] Oil and Gas and Sulphur Operations in the Outer Continental Shelf—Decommissioning Activities, 30 C.F.R. § 250.1703(f) (2007).

[42] *See id.* § 250.1703(e)–(f).

[43] Schroeder & Love, *supra* note 39, at 24–25. For example, rig owners donating to Rigs to Reefs may not be required to remove main components of the rig, such as the platform, or to clear the leased area of all obstructions. *Id.* at 24.

[44] 30 C.F.R. § 250.1703.

ing a rig.[45] Owners must submit applications that require them to make plans to protect archaeological and sensitive biological features of the environment during the decommissioning process.[46] Second, rig owners must either seal or remove supporting components of the rig apparatus that are not necessary to the rig's function as an artificial reef.[47] Such supporting components generally include wells and pipelines.[48] Third, rig owners must submit final reports describing the rig's potential future environmental impacts and the mitigation measures that the owners took to minimize such impacts.[49] For example, owners must verify that the rig site has been cleared of unnecessary obstructions and has not unnecessarily disturbed the surrounding sea floor.[50]

By exempting rig owners from the costliest decommissioning requirements, while enforcing those requirements related to environmental impacts, the MMS encourages industry participation and helps preserve the ocean environment.[51] The National Fishing Enhancement Act (NFEA), the federal legislation authorizing Rigs to Reefs, similarly encourages these goals.[52]

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[45] *Id.* § 250.1703(a). The MMS defines "facility" as "any installation other than a pipeline . . . that is permanently or temporarily attached to the seabed on the [Outer Continental Shelf]." *Id.* § 250.1700(c).

[46] *Id.* § 250.1712(f)(14).

[47] *Id.* § 250.1703(b), (c).

[48] *Id.* Decommissioning a well requires *plugging* or sealing it to prevent underground materials from leaking up through the well and polluting the surrounding environment. *Id.* §§ 250.1703(b), 250.1714. Decommissioning a pipeline entails either removing it or sealing it off by flushing the pipeline of potential pollutants, filling it with seawater, cutting and plugging each end of the pipeline, and covering or burying both ends. *Id.* § 250.1751(c)–(f). Removing the components also ensures that they will not obstruct the sea floor and pose a hazard to ship navigation and marine life. *See* Schroeder & Love, *supra* note 38, at 25.

[49] Schroeder & Love, *supra* note 38, at 25. These reports are required pursuant to the National Environmental Protection Act and corresponding state environmental reporting acts. *Id.*

[50] *Id.* at 25–26. The MMS defines "obstructions" as "structures, equipment, or objects that were used in oil, gas, or sulfur operations or marine growth that, if left in place, would hinder other users of the [Outer Continental Shelf]." 30 C.F.R. § 250.1700(b). Obstructions may include wellheads, platforms, pipelines, and other facilities. *Id.*

[51] *See* DAUTERIVE, *supra* note 11, at iv.

[52] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. § 2101(a)(5) (2000).

II. The Regulatory Structure of Rigs to Reefs

A. *Federal Enabling Legislation and Implementation: The NFEA and the National Artificial Reef Plan*

Congress enacted the NFEA in 1984.[53] The statute's purpose was to encourage artificial reef development in general.[54] The legislation does not refer to Rigs to Reefs by name, but is essential to Rigs to Reefs because it provides federal agencies with both the authority to create Rigs to Reefs and the basic guidelines to implement the program.[55] The NFEA features two basic categories of guidelines, each dealing with a legal and regulatory issue critical to the successful development of artificial reefs.[56] The NFEA's first category of guidelines allocates responsibility for the development of artificial reefs among federal agencies, and requires those agencies to work together to develop a plan to achieve the NFEA's goals.[57] The NFEA's second category of guidelines establishes basic strictures governing the legal liability of parties involved in artificial reef development.[58]

The NFEA allocates primary responsibility for artificial reef development among three federal agencies.[59] The MMS is responsible for the implementation and enforcement of rig decommissioning regulations.[60] The U.S. Army Corps of Engineers (ACE) issues the permits that allow for the planning and construction of artificial reefs.[61] The NMFS serves as the lead agency in the development a long-term plan (National Plan or Plan) to achieve the NFEA's goal of encouraging artificial reef development.[62]

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[53] *Id.* § 2101; *see* Kaiser & Pulsipher, *supra* note 24, at 120.

[54] *See* 33 U.S.C. § 2101(b).

[55] *See id.* §§ 2102–2103.

[56] *See id.* §§ 2103–2104.

[57] *Id.* § 2103.

[58] *Id.* § 2104(c), (d); *see* discussion *infra* Part II.C (discussing liability in Rigs to Reefs in additional detail).

[59] 33 U.S.C. §§ 2103–2104(a). Other federal agencies play an ancillary role in artificial reef development. *See id.* § 2103. For example, the U.S. Coast Guard has the responsibility to establish safety zones around offshore facilities, such as rigs, and to enforce fishery laws. Reef Plan Revision, *supra* note 14, at 10–11. Additionally, the Environmental Protection Agency is responsible for permitting the transportation for dumping of certain materials in ocean waters, and such permitting criteria may apply to certain artificial reef materials placed on the ocean floor. *Id.*

[60] Reef Plan Revision, *supra* note 14, at 5.

[61] 33 U.S.C. § 2104(a). The ACE is headed by the Secretary of the Army. *Id.*

[62] Reef Plan Revision, *supra* note 14, at 6. The NMFS is a division of the U.S. Commerce Department. *Id.* at 5–6.

The National Plan is important because it explicitly establishes Rigs to Reefs and provides many of the detailed guidelines necessary to implement the program.[63] These guidelines are directed at federal agencies, which form the foundation of Rigs to Reefs, and at state agencies, which are responsible for much of the implementation of the program.[64] The National Plan contains two important sections.[65] The first section describes in detail the roles of the federal agencies implicated by the NFEA, namely the MMS, the NMFS, and the ACE.[66] The Plan limits MMS approval of rigs for use in Rigs to Reefs to those rigs designated for such use by a state artificial reef program.[67] It also describes the NMFS's role in drafting the Plan and coordinating its implementation among the federal agencies.[68] Additionally, the Plan refers to specific regulations relating to artificial reef permitting that have been promulgated by the ACE since the enactment of the NFEA.[69] The second section of the Plan provides detailed guidelines for each stage of artificial reef development.[70] This section includes criteria related to reef siting, materials and design, construction, and management.[71] The NFEA requires these criteria for artificial reef development to be present in the Plan.[72]

These two sections of the National Plan provide clear roles and tasks for the federal agencies involved in the program.[73] However, federal agencies only provide the foundation for NFEA enforcement.[74] The Plan states that "[t]he Federal role is to provide technical

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[63] *Id.* at 1. The NMFS issued the National Artificial Reef Plan in 1985, and has overseen the revision. *Id.* at v. The Plan was intended to provide additional details to supplement the NFEA's general guidelines. *Id.* at 1; *see* 33 U.S.C. § 2103. State plans provide another layer of detail critical to implementation of the national plan. *See* discussion *infra* Part II.B.

[64] Reef Plan Revision, *supra* note 14, at 4, 11–13.

[65] *See id.*

[66] *Id.* at 5–11.

[67] *Id.* at 5.

[68] *Id.* at 6–7.

[69] *Id.* at 9. For the purposes of this Note, the details of each agency's role in Rigs to Reefs are less important than the general division of power among the agencies. For example, it is sufficient to understand that the ACE is responsible for permitting artificial reefs without delving into details of the ACE's permitting regulations pertaining to artificial reefs. *See* 33 C.F.R. §§ 320–30 (2007).

[70] *See* Reef Plan Revision, *supra* note 14, at 15.

[71] *Id.*

[72] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. § 2103 (2000).

[73] Reef Plan Revision, *supra* note 14, at 1, 4. Another section of the Plan, describing aspects of artificial reef development that require further scientific research, is not relevant to this Note. *See id.* at 48.

[74] *Id.* at 1, 11.

assistance, guidance, permitting and regulations for the proper use of artificial reefs."[75] The federal agencies provide assistance and guidance primarily to state agencies, which are responsible for the bulk of the implementation of Rigs to Reefs.[76] Not only is this clear enumeration of federal agency roles advantageous for the agencies themselves, it is also beneficial for the state actors who must work extensively with the federal agencies to implement the program.[77]

B. *Role of the States Under the National Artificial Reef Plan*

Under the National Plan, the success of Rigs to Reefs is contingent upon state agencies performing two tasks.[78] First, the Plan strongly encourages states to adopt their own artificial reef plans.[79] Second, the Plan suggests that states act as the holders of the artificial reef permits granted by the federal agencies.[80] State artificial reef plans effectively serve as more detailed, site-specific versions of the National Plan.[81] The National Plan indicates that state plans should direct state agencies to "assume[] the lead in acquiring permits, . . . financing, constructing, researching, and monitoring marine artificial reefs" using state programs.[82]

Furthermore, the National Plan recommends that states restrict eligibility to hold federal artificial reef permits to the states' own fishery management agencies.[83] The National Plan gives two reasons for this restriction.[84] For one, a state's natural resource agencies hold the public trust in managing the state's resources related to artificial reefs.[85]

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[75] *Id.* at 4.

[76] *Id.* at 11 ("Since the implementation of the original Plan in 1985, most state marine fisheries agencies have assumed the lead in acquiring permits . . . through state supported programs.").

[77] *See id.* By providing relatively clear guidelines regarding the role of each federal agency, the Plan relieves state actors from devoting time and energy to navigating federal bureaucracies. *See id.*

[78] *See id.*

[79] Reef Plan Revision, *supra* note 14, at 11.

[80] *Id.*

[81] *See id.* at 1.

[82] *Id.* at 11–12 ("A state program for artificial reef construction is an integral part of any comprehensive state/federal effort to protect, restore or enhance habitats essential to valuable commercial and recreational fisheries.").

[83] *Id.* at 12 ("Because of the potential long-term effects of artificial reef development on the environment and on finfish and shellfish stocks, eligibility to hold a permit to develop an artificial reef . . . should be restricted to the appropriate state fishery management agency.").

[84] *See id.*

[85] Reef Plan Revision, *supra* note 14, at 12.

The agencies' role as public trustees ensures that artificial reefs will be managed with the best interests of the public in mind.[86] Moreover, state agencies are in the best position to assume the long-term liability necessary to hold an artificial reef permit.[87]

Many coastal states have implemented their own artificial reef plans according to the National Plan's directives.[88] For example, the State of Louisiana's plan includes instructions to state agencies to manage rig-to-reef conversions off the Louisiana coast, as well as provisions that allow state agencies to act as federal permit holders.[89] Louisiana has made extensive use of Rigs to Reefs because of the prevalence of suitable rigs off of the state's coast.[90] Thus, the Louisiana Artificial Reef Plan serves as a model for state implementation of Rigs to Reefs.[91]

Louisiana created its artificial reef plan in much the same manner as the NFEA created the National Plan.[92] The Louisiana state legislature enacted enabling legislation that delegated the task of creating a state artificial reef plan to state agencies.[93] The primary state agency, the Louisiana Department of Wildlife and Fisheries (LDWF), produced the Louisiana Artificial Reef Plan after consultation with other state agencies, as well as the oil and fishing industries.[94]

Similar to the National Plan's assignment of federal agency roles, the Louisiana Plan delegated the task of implementing the state's artificial reef program to state agencies.[95] The plan charges the LDWF with

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[86] *See id.*

[87] *Id.* The NFEA states that a permit holder must demonstrate to the ACE that it has "the financial ability to assume liability for all damages that may arise with respect to an artificial reef." National Fishing Enhancement Act of 1984, 33 U.S.C. § 2104(c)(3) (2000); *see* discussion *infra* Part II.C (discussing liability in more detail).

[88] Reef Plan Revision, *supra* note 14, at 11; *see, e.g.*, Mass. Div. of Marine Fisheries, Massachusetts Marine Artificial Reef Plan 1, 37 (2006), *available at* http://www.mass.gov/dfwele/dmf/programsandprojects/draft_ma_artificial_reef_plan_ii_111706.pdf.

[89] Louisiana Fishing Enhancement Act, La. Rev. Stat. Ann. § 56:639.9(A) (1987); La. Dep't of Wildlife & Fisheries, *supra* note 22, at 42.

[90] Kaiser & Pulsipher, *supra* note 23, at 126.

[91] *See id.* 126–27; La. Dep't of Wildlife & Fisheries, *supra* note 22, at vii. Louisiana was the first gulf state to create an artificial reef program based on the NFEA. *Id.*

[92] *Compare* National Fishing Enhancement Act of 1984, 33 U.S.C. §§ 2101–2106 (2000) (delegating responsibility to create the National Plan to the NMFS), *with* La. Rev. Stat. Ann. § 56:639.6(B)–.7 (delegating the responsibility to create a state plan to the Louisiana Department of Wildlife and Fisheries).

[93] La. Rev. Stat. Ann. § 56:639.6(B)–.7. Such enabling legislation was necessary to provide the Louisiana artificial reef program with the proper founding authority. La. Dep't of Wildlife & Fisheries, *supra* note 23, at 7.

[94] La. Dep't of Wildlife & Fisheries, *supra* note 22, at 39–40. Chief among these interest groups were members of the fishermen's lobby. *Id.* at 40.

[95] *Id.* at 41.

primary responsibility for administering and enforcing the program, including developing permit applications.[96] The LDWF's Artificial Reef Development Fund assures that the reef program is adequately financed.[97] Finally, two agencies associated with Louisiana State University provide scientific and technical support for reef site selection and development.[98]

State agencies, therefore, play a primary role in the reef development process.[99] State artificial reef plans provide for the specific implementation of the general guidelines set out in the NFEA and the National Plan.[100] Moreover, state agencies may act as federal permit holders, and thus, accept liability if legal issues arise in the Rigs to Reefs program.[101] The proper apportioning of liability is critical to the success of Rigs to Reefs because, without it, industry would be discouraged from participating in the program.[102]

C. *Treatment of Liability in the Rigs to Reefs Program*

Rigs to Reefs relies on extensive industry participation to be successful; without industry donations of rigs, Rigs to Reefs would not exist.[103] Rigs to Reefs provides the oil industry with an incentive to participate by allowing the industry to avoid many of the decommissioning costs associated with obsolete rigs.[104] It is likely that this cost-saving incentive would be greatly negated if industry donors were subject to legal liability for accidents that occurred while converting a rig to a reef.[105] However, reef permit holders would be unlikely to accept and bear the cost of rigs that industry has negligently decommissioned or

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[96] *Id.* at 42.

[97] *Id.* at 8.

[98] *Id.* at 41–43. These two agencies are the Louisiana Geological Survey (LGS) and the Center for Wetland Resources (CWR). *Id.* at 41. The LGS assists the LDWF in developing criteria for reef placement and by coordinating permitting procedures at the state and federal level. *Id.* at 42. The CWR provides the LDWF with criteria for the selection and development of sites and technical assistance for program development. *Id.* at 43.

[99] *See id.* at 41.

[100] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. § 2104(a)(3), (d) (2000); La. Dep't of Wildlife & Fisheries, *supra* note 22, at 42; Mass. Div. of Marine Fisheries, *supra* note 88, at 30.

[101] Reef Plan Revision, *supra* note 14, at 12.

[102] *See* Dauterive, *supra* note 11, at iv, 4; Schroeder & Love, *supra* note 38, at 29.

[103] Dauterive, *supra* note 11, at 4–5.

[104] *Id.* at iv. The oil industry is spared the cost of removing the structures and towing them to land for disposal. *Id.* at 4.

[105] *See, e.g.*, Decommissioning Costs, *supra* note 11, at app. B-1, B-2. For example, the MMS estimates that potential legal liability for just four rigs could exceed $1 billion. *Id.*

prepared for donation.[106] Thus, for Rigs to Reefs to operate effectively, it is critical for federal and state agencies to set clear guidelines that fairly apportion liability among donors and permit holders.[107]

At the conception of Rigs to Reefs, Congress and the federal and state agencies recognized the importance of addressing the liability issue.[108] First, the NFEA, the enabling legislation of the federal artificial reef program, devoted a section to liability.[109] Next, the National Plan elaborated on the NFEA's general treatment of liability through a discussion of the impact of liability on private parties that participate in the reef development process.[110] Finally, state plans such as the Louisiana Artificial Reef Plan implemented the directives of the NFEA and the National Plan concerning liability on the state level.[111]

The NFEA deals with liability by establishing broad directives that provide a basic framework for the treatment of liability in the federal artificial reef program.[112] The NFEA addresses liability as it pertains to the federal government, to permit holders, and to donors of material.[113] The NFEA's liability section immunizes the federal government from liability to the greatest extent possible under the law.[114] The legislation also addresses the potential liability of permit holders.[115] The statute states that permit holders are immune from liability as long as they comply with the terms and conditions of the permit.[116] This acts as both an assurance to permit holders and a directive to federal agencies to ensure that permit conditions are clear and can be easily followed by

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[106] *See id.*

[107] *See* Schroeder & Love, *supra* note 38, at 28–29.

[108] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. § 2104(a)(3), (d) (2000).

[109] *Id.* § 2104.

[110] Reef Plan Revision, *supra* note 14, at 45–47. The National Plan divided the reef development process into three stages: planning and permitting, construction, and monitoring. *Id.* at 38–39.

[111] La. Dep't of Wildlife & Fisheries, *supra* note 22, at 8; Mass. Div. of Marine Fisheries, *supra* note 88, at 30; *see* 33 U.S.C. §§ 2103–2104; Reef Plan Revision, *supra* note 14, at 47.

[112] *See* 33 U.S.C. § 2104.

[113] *Id.* § 2104(c)–(d).

[114] *Id.* § 2104(d) ("Nothing in this chapter creates any liability on the part of the United States."). As the National Plan indicates, the statute may not cover all liability issues involving the federal government. Reef Plan Revision, *supra* note 14, at 46. If not covered by the statute, liability issues "will require reference to maritime law, sovereign immunity, and traditional tort concepts." *Id.*

[115] 33 U.S.C. § 2104(c).

[116] *Id.* § 2104(c)(1) ("A person to whom a permit is issued . . . shall not be liable for damages . . . if the permittee is in compliance with [the] terms and conditions [of the permit].").

applicants.[117] Yet the NFEA also clearly states that if a permit holder deviates from the terms of the permit, that permit holder must accept any accompanying liability.[118] Thus, under the NFEA, the burden falls first on the government to draft clear permit conditions, and then on the permit holder to comply with such conditions.[119]

The NFEA further addresses permit holder liability by qualifying the receipt of a permit on a permit holder's "financial ability to assume liability for all damages that may arise with respect to an artificial reef."[120] This qualification has effectively limited the class of reef permit holders to those with substantial financial resources.[121] Private parties have been unwilling to commit the financial resources necessary to qualify as permit holders under the NFEA, leaving state agencies as the only entities willing and able to hold artificial reef permits.[122]

Although the NFEA has effectively precluded private parties from holding rig permits, the statute does provide qualified immunity for private donors of rigs or rig materials.[123] Under the NFEA, any person who transfers title to a rig, or transfers reef construction materials to a permit holder, cannot be held liable for damages arising from the use of such materials so long as it meets certain criteria established by the ACE and other federal agencies.[124] By establishing broad rules governing potential liability for the federal government, permit holders, and donors, the NFEA provides basic guidelines for the National Plan.[125]

The National Plan adheres to the NFEA's broad guidelines regarding liability, but discusses them in much greater detail.[126] The

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[117] *See* Reef Plan Revision, *supra* note 14, at 47. Clarity in the drafting of permit conditions is essential to ensure the confidence of permit holders. *See id.* However, legal question may still arise over what constitutes compliance with permit conditions, especially given the National Plan's emphasis on "strict adherence to all the terms of the permit." *See id.* at 39.

[118] 33 U.S.C. § 2104(c).

[119] *See id.* § 2104(c)(1)–(2); Reef Plan Revision, *supra* note 14, at 47.

[120] 33 U.S.C. § 2104(c)(3).

[121] *See* Mass. Div. of Marine Fisheries, *supra* note 89, at 37.

[122] *Id.* As this Note will argue, the NFEA's financial qualification for holding reef permits has substantially limited the scope and effectiveness of Rigs to Reefs. *See* discussion *infra* Part II.B.2.

[123] 33 U.S.C. § 2104(c)(4); Mass. Div. of Marine Fisheries, *supra* note 88, at 37.

[124] *See* 33 U.S.C. § 2104(c)(4). The ACE's criteria is discussed in more detail in the National Plan. Reef Plan Revision, *supra* note 14, at 9. In addition to ACE guidelines, rig materials may need to conform to the regulations of other federal agencies. *See id.* at 7–8. For example, Environmental Protection Agency regulations regarding materials suitable for ocean dumping may apply to certain materials used in reef construction. *Id.* at 8.

[125] *See* 33 U.S.C. § 2106; Reef Plan Revision, *supra* note 14, at 3.

[126] Reef Plan Revision, *supra* note 14, at 45–47.

Plan addresses the application of NFEA's liability rules to the federal government, permit holders, and donors.[127] The Plan confirms that the NFEA creates no liability on the part of the United States, but then discusses ways that the United States may be liable under other statutes that are applicable to offshore rigs.[128] For example, the Plan explains that the United States may be liable under the Suits in Admiralty Act for injuries or damage resulting from the maritime actions of the federal government.[129] Under the Suits in Admiralty Act, if the ACE negligently authorized placement of a reef, the United States may be liable for any damage that resulted from that negligence.[130]

The federal government may also be liable if the ACE fails to fulfill the NFEA's baseline requirements for the placement and siting of reefs.[131] The NFEA requires that artificial reef construction minimize environmental risks, and that the placement of a reef not create an unreasonable hazard to navigation.[132] If the ACE issues permits that allow environmentally damaging materials, or authorizes a reef that creates a hazard to navigation, the federal government may be liable for the ACE's actions.[133] Another potential source of permit holder liability is the lack of compliance with systematic monitoring of each new reef.[134] If permit holders do not comply with the systematic monitoring requirements, they may be held liable for accidents involving the reef.[135]

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[127] *Id.* at 46.

[128] *Id.*

[129] *Id.*; *see* Suits in Admiralty Act, 46 U.S.C. §§ 30,901–30,911 (2000).

[130] REEF PLAN REVISION, *supra* note 14, at 46; *see* 46 U.S.C. app. §§ 741–745. The Plan notes that certain courts have implied an exemption from liability under the Suits in Admiralty Act for discretionary functions of the federal government. REEF PLAN REVISION, *supra* note 14, at 46. These courts have drawn on the concept of federal sovereign immunity to conclude that such an exemption from liability exists. *Id.* Under this analysis, a decision by a federal agency such as the ACE to permit a reef in a particular place, or to require certain materials for construction, would not create any liability applicable to the federal government, even if the agency knew that there were risks involved. *Id.* The federal government could be liable under this scenario only if the federal agency did not follow the NFEA's explicit requirements. *Id.*

[131] REEF PLAN REVISION, *supra* note 14, at 46.

[132] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. § 2102 (2000); REEF PLAN REVISION, *supra* note 14, at 32.

[133] *See* 33 U.S.C. § 2102; REEF PLAN REVISION, *supra* note 14, at 46.

[134] REEF PLAN REVISION, *supra* note 14, at 47; *see* 33 U.S.C. § 2104(a)(2).

[135] *See* REEF PLAN REVISION, *supra* note 14, at 47. The Plan notes that there should be only a slight possibility of liability as long as the reef has been appropriately located, marked on navigation charts, and the required surface markers are attached to the reef. *Id.* Additionally, users of an artificial reef assume some risk of injury, just as visitors to public parks do. *Id.*

After discussing federal government liability, the Plan addresses the NFEA's treatment of permit holder liability.[136] The Plan recommends that each state restrict eligibility to hold reef permits to that state's natural resource agencies.[137] According to the Plan, state agencies should be the sole holders of reef permits because they are the only entities with the financial ability to assume all liability, as required by the NFEA.[138] However, the Plan leaves open the possibility for a state to extend its authority to hold permits to other entities, as long as the state informs the ACE that it has done so.[139]

In addition to federal government and permit holder liability, the Plan supplements the NFEA's guidelines for donor liability.[140] The Plan echoes the NFEA's assurances that donors will not be liable for accidents involving donated materials, as long as such materials meet the Plan's requirements.[141] Yet the Plan also cautions donors to verify that materials meet Plan guidelines and to document title transfers to ensure that donors' liability terminates upon donation.[142]

Finally, the National Plan briefly addresses the liability implications of private-party participation in reef construction, an area of liability that is not discussed in the NFEA.[143] The Plan acknowledges that private parties often will participate in reef construction as volunteers or contractors of the permit holder.[144] Because a properly drafted permit specifies the location and procedures of reef construction, permit

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[136] *Id.* at 46–47.

[137] *Id.* at 11–12.

[138] *Id.*; *see* Mass. Div. of Marine Fisheries, *supra* note 88, at 37. In addition, state agencies should act as the sole permit holders because the states' natural resource agencies hold the public trust in managing resources associated with artificial reefs. Reef Plan Revision, *supra* note 14, at 11–12.

[139] Reef Plan Revision, *supra* note 14, at 11–12. Thus, the Plan appears to contemplate the possibility of private parties holding reef permits. *See id.* As this Note will argue, Rigs to Renewables would not have to rely on states extending their permit–holding authority to private parties because the ability of private parties to hold permits would be built into the program's federal enabling legislation. *See* discussion *infra* Part III.B.

[140] *See id.*

[141] *Id.*; *see* 33 U.S.C. § 2104(c)(4). The Plan establishes criteria for reef materials based on the materials' function, compatibility, stability, and durability. Reef Plan Revision, *supra* note 14, at 30–31. The Plan also describes the types of materials a permit holder may accept, including secondary-use materials, natural materials, and manufactured reef structures. *Id.* at 31–33.

[142] Reef Plan Revision, *supra* note 14, at 47. Although the Plan focuses on donor liability, it also calls attention to the benefits that donors receive from donation, including treatment of the donation as a charitable contribution for tax purposes and favorable publicity for the donor. *Id.* at 33.

[143] *Id.* at 47; *see* 33 U.S.C. § 2104(c)(4).

[144] Reef Plan Revision, *supra* note 14, at 47.

holders need only ensure that their contractors or volunteers strictly adhere to permit requirements to be immunized from liability under the NFEA.[145]

Using the National Plan as a guide, states like Louisiana address liability concerns specific to their situations.[146] Just as the NFEA and the National Plan address liability concerns on the federal level, the Louisiana Fishing Enhancement Act (LFEA) and the Louisiana Artificial Reef Plan address liability issues specific to the State of Louisiana.[147] The LFEA designates the State of Louisiana as the permit holder for artificial reefs developed under the National Plan, ensuring state control over reef permitting and development.[148] The LFEA does not, however, foreclose the possibility that other groups could hold reef permits.[149] Language in the LFEA indicates that the state may allow private parties to hold rig development permits.[150] Before being allowed to hold such permits, however, private parties must demonstrate that they have the financial ability to assume all liability for the structure, as required by the NFEA.[151]

Private parties generally donate the structures and materials that comprise an artificial reef.[152] Louisiana acknowledges this fact by including in its reef plan a Donation Agreement to be signed by the state agency and the private donor.[153] The Donation Agreement stipulates that the donor accepts liability for the donated structure until the structure is delivered and the state mails a Notification of Acceptance.[154] This

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[145] *Id.*

[146] LA. DEP'T OF WILDLIFE & FISHERIES, *supra* note 22, at 8. Massachusetts's state reef plan also has a comprehensive section addressing liability. MASS. DIV. OF MARINE FISHERIES, *supra* note 88, at 36.

[147] *Compare* 33 U.S.C. § 2104 (requiring the ACE to ensure that permit holders have the financial ability to assume liability), *and* REEF PLAN REVISION, *supra* note 14, at 46–47 (addressing liability at all stages of reef development), *with* Louisiana Fishing Enhancement Act, LA. REV. STAT. ANN. § 56:639.10 (1987) (designating State of Louisiana as permt holder), *and* LA. DEP'T OF WILDLIFE & FISHERIES, *supra* note 22, at 8 (providing for potential relief from liability for Louisiana permit holders).

[148] LA. REV. STAT. ANN. § 56:639.9(A).

[149] *See id.* § 56:639.9(B)(4).

[150] *Id.* ("The . . . Department of Wildlife and Fisheries . . . [shall] insure that artificial reef permits sought by groups other than Louisiana are consistent with the state plan developed under this Subpart and the National Fishing Enhancement Act.").

[151] *See* 33 U.S.C. § 2104(c)(3); LA. REV. STAT. ANN. § 56:639.9(A)(4).

[152] DAUTERIVE, *supra* note 11, at iv; REEF PLAN REVISION, *supra* note 14, at 47.

[153] *See* LA. DEP'T OF WILDLIFE & FISHERIES, *supra* note 22, at app. VII.

[154] *Id.* at app.VII § 7.1.

Donation Agreement helps to ensure that both the state and the donor follow the NFEA's guidelines regarding private-party liability.[155]

Rigs to Reefs' treatment of liability is effective because it makes efficient use of a hierarchal framework.[156] Federal agencies set broad guidelines for the program, while state agencies provide the specific details necessary for implementation of those guidelines on the state level.[157] Incorporating this framework into Rigs to Renewables would ensure that the program has the broad federal guidance and specific state implementation that has proven to be effective in Rigs to Reefs.[158]

III. Rigs to Renewables: Incorporating and Improving the Rigs to Reefs Framework

A. *The Rigs to Renewables Program*

The Rigs to Renewables program would use old offshore oil rigs as renewable energy stations.[159] Like Rigs to Reefs, Rigs to Renewables would promote conservation, while providing reduced decommissioning costs as an incentive for the oil industry to donate rigs to the program.[160] In addition to creating this incentive for industry, the Energy Policy Act of 2005 provides grant funding and tax breaks for alternative energy development that may apply to donees who hold permits to develop the rigs.[161] Because both rig donors and donees would have incentives to participate in the program, Rigs to Renewables could be a viable, pragmatic approach to alternative energy development.[162]

The aim of this Note is to propose a legal and regulatory framework for Rigs to Renewables. Such a framework should be based on three pillars, which collectively incorporate the advantages of Rigs to Reefs and improve on its flaws.[163] First, Rigs to Renewables should draw

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[155] *See id.*

[156] *See* Reef Plan Revision, *supra* note 14, at 45–47.

[157] *See id.*; *see, e.g.*, La. Dep't of Wildlife & Fisheries, *supra* note 22, at 7.

[158] *See* Reef Plan Revision, *supra* note 14, at 45–47; *see, e.g.*, La. Dep't of Wildlife & Fisheries, *supra* note 22, at 7.

[159] Geoghegan, *supra* note 8, at 34.

[160] *See* Dauterive, *supra* note 11, at iv; Alex De Alessi, Private Reef Building: Two Case Studies 2 (1997); *see, e.g.*, Decommissioning Costs, *supra* note 11, at ii tbl.1.

[161] *See* U.S. Dep't of Energy, *supra* note 1, at 4. The Energy Policy Act does not specifically mention rig donees, but the Act includes tax credits for renewable energy production. *See* Energy Policy Act of 2005, 42 U.S.C.A. §§ 13,317(b)–(c) (2005 & Supp. 2007); U.S. Dep't of Energy, *supra* note 1, at 4.

[162] *See* Energy Policy Act of 2005 § 4293; U.S. Dep't of Energy, *supra* note 1, at 4.

[163] *See* 33 U.S.C. § 2103; La. Dep't of Wildlife & Fisheries, *supra* note 22, at 7–8; Reef Plan Revision, *supra* note 14, at 1.

on the basic regulatory structure of the Rigs to Reefs program: a federal enabling statute, broad federal guidance, and detailed implementation by the states.[164] Second, Rigs to Renewables should permit greater state control over the program than is currently allowed in Rigs to Reefs. This approach would enable more flexible approaches in achieving program goals.[165] Third, the federal and state agencies in charge of Rigs to Renewables should regulate in a way that encourages private parties to hold rig-development permits, thereby greatly increasing the impact of the program.[166] Taking these three steps would incorporate the hierarchal structure that is the strength of Rigs to Reefs, while addressing the inflexibility that is the program's primary weakness.[167]

B. *Incorporating the Rigs to Reefs Framework*

Rigs to Renewables should incorporate the basic structure that underlies the Rigs to Reefs program because such a structure provides a clear delineation of the roles of federal and state agencies.[168] The NFEA, as the enabling legislation for the federal artificial reef program, is the legal authority for Rigs to Reefs.[169] The NFEA delegates permit-granting authority to the ACE, and grants authority to coordinate agency efforts to create the National Plan to the NMFS.[170] It is likely that the MMS and the ACE would have similar roles under Rigs to Renewables as they do under Rigs to Reefs.[171] Thus, an enabling statute for Rigs to Renewables would contain language similar to the language

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[164] *See* 33 U.S.C. § 2103 (providing basic guidelines for authorities to use in implementing the program); La. Dep't of Wildlife & Fisheries, *supra* note 22, at 7–8 (describing state implementation of the National Plan); Reef Plan Revision, *supra* note 14, at 1 (providing more detailed direction to federal and state agencies).

[165] *See* Reef Plan Revision, *supra* note 14, at 11–13.

[166] *See* De Alessi, *supra* note 160, at 2–4.

[167] *See* 33 U.S.C. § 2103; La. Dep't of Wildlife & Fisheries, *supra* note 22, at 7–8; Reef Plan Revision, *supra* note 14, at 1. The structure of Rigs to Reefs is more complex than the three tiers presented here. *See* Reef Plan Revision, *supra* note 14, at 8. For example, Rigs to Reefs also envisions roles for local governments, non-profit organizations, and concerned interest groups. *Id.* at 11–12. This Note does not propose to incorporate every aspect of Rigs to Reefs into Rigs to Renewables, only its basic structure. *See id.* at 9–12.

[168] *See* Reef Plan Revision, *supra* note 14, at 4. Not only does a clear delineation of agency roles provide for the more efficient operation of government, it provides program participants—whether industry donors or permit holders—with certainty regarding program procedures. *See id.*

[169] 33 U.S.C. §§ 2101–2106.

[170] *Id.* §§ 2103–2104.

[171] *See id.*; Reef Plan Revision, *supra* note 14, at 5, 7. The MMS oversees renewable energy and alternative uses in ocean waters. *Id.* at 6, 11–13.

in the NFEA.[172] An enabling statute is necessary to provide the explicit legal authority for Rigs to Renewables, and it should be drafted using NFEA as a model.[173]

The National Plan elaborates on the roles of the federal agencies described in the NFEA, and supplements the NFEA by emphasizing the critical role that state agencies play in the Rigs to Reefs program.[174] Because state agencies would play a similarly crucial part in Rigs to Renewables, and describing these roles in detail would be beyond the pale of a Congressional statute, a national plan similar to the National Artificial Reef Plan likely would be necessary for Rigs to Renewables to succeed.[175]

The National Plan's section on state agencies provides examples of areas where state agency action is critical to Rigs to Reefs; in these areas, the NFEA provides only general comments.[176] For example, the National Plan describes how state agencies should address industry liability concerns, specifically, by acting as the holders of federal permits.[177] Additionally, the National Plan suggests that state agencies work with local governments within their states to coordinate reef construction programs and publicize local reef efforts, among other activities.[178] Aside from brief instructions on permit holding and working with local governments, however, the National Plan provides little guidance to state agencies.[179]

By acting as permit holders, states are the linchpin of Rigs to Reefs' approach to handling potential liability.[180] Yet the NFEA's section on liability does not mention state agencies, presumably leaving the task of defining the agencies' roles to the National Plan, which can provide for more detailed treatment of states and liability than possible in NFEA.[181] Moreover, the NFEA does not mention the relationship between state and local governments, which is thoroughly presented in the National Plan.[182] These examples demonstrate how the National

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[172] *See* 33 U.S.C. §§ 2101–2106.

[173] *See id.*

[174] Reef Plan Revision, *supra* note 14, at 7–13.

[175] *See id.*

[176] *See* 33 U.S.C. § 2103; Reef Plan Revision, *supra* note 14, at 11–13.

[177] Reef Plan Revision, *supra* note 14, at 12.

[178] *Id.* at 13. Other areas of potential cooperation between state and local governments include providing technical support for community efforts, furnishing financial assistance to reef programs, and obtaining state funding for local reef efforts. *Id.*

[179] *See id.* at 11–13.

[180] *See id.* at 12.

[181] *See* 33 U.S.C. § 2104; Reef Plan Revision, *supra* note 14, at 12.

[182] *See* 33 U.S.C. § 2104; Reef Plan Revision, *supra* note 14, at 13–14.

Plan includes critical aspects of Rigs to Reefs that are beyond the scope of an enabling statute like the NFEA.[183] Therefore, it is likely that Rigs to Renewables, because it is similar to Rigs to Reefs, would also require a national plan.[184] Such a plan would provide the details to supplement the enabling statute's general guidelines, and would coordinate the actions of state agencies, which would be largely responsible for the actual implementation of the program.[185]

In Rigs to Reefs, state agencies provide for the implementation of the program by creating individualized state artificial reef plans.[186] To benefit from the clear delineation of agency roles that is the advantage of the Rigs to Reefs system, Rigs to Renewables should require detailed state plans similar to those in Rigs to Reefs.[187] State plans are essential to the success of a national program such as Rigs to Renewables for two reasons. First, state plans can consider conditions particular to the state that would affect the implementation of Rigs to Renewables.[188] For example, the Louisiana Artificial Reef Plan established artificial reef planning zones, which encourage artificial reef development in some offshore areas and discourage it in others, based on characteristics particular to the locale, such as hydrological and geologic conditions.[189] These development zones are critical to effective reef development in Louisiana.[190] Because the National Plan is unable to account for the particular characteristics of every state participating in Rigs to Reefs, state plans play an important role in providing such details.[191]

Second, states can take advantage of the small scale of their reef programs to implement creative solutions that are not possible at the national level.[192] For example, the Louisiana Artificial Reef Plan notes that state and local groups in Florida have acquired and transported

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[183] *See* REEF PLAN REVISION, *supra* note 14, at 11–13.

[184] *See* 33 U.S.C. § 2104; REEF PLAN REVISION, *supra* note 14, at 11–13.

[185] *See* REEF PLAN REVISION, *supra* note 14, at 11.

[186] *Id. See* LA. DEP'T OF WILDLIFE & FISHERIES, *supra* note 22, at 9; MASS. DIV. OF MARINE FISHERIES, *supra* note 88, at 13.

[187] *See* LA. DEP'T OF WILDLIFE & FISHERIES, *supra* note 22, at 4; REEF PLAN REVISION, *supra* note 14, at 11.

[188] *See, e.g.*, MASS. DIV. OF MARINE FISHERIES, *supra* note 88, at 11–16 (examining the unique location, geography, oceanographic conditions, and ecology).

[189] *See* LA. DEP'T OF WILDLIFE & FISHERIES, *supra* note 22, at 11, 17–18. Alabama and Florida have made efforts to allow private parties to play a larger role in reef construction and development. *See* DE ALESSI, *supra* note 160, at 2–4.

[190] *See* LA. DEP'T OF WILDLIFE & FISHERIES, *supra* note 22, at 20.

[191] *See, e.g.*, MASS. DIV. OF MARINE FISHERIES, *supra* note 88, at 11–16.

[192] *See, e.g.*, LA. DEP'T OF WILDLIFE & FISHERIES, *supra* note 22, at 4.

rigs from the coast of Louisiana, where they are plentiful, to the coast of Florida, where they are less numerous.[193] Florida then used the rigs in its own Rigs to Reefs program.[194] The national focus of the NFEA and the National Plan prevent federal agencies from realizing opportunities for creative solutions, such as the cooperative effort between Louisiana and Florida, that arise on the state level.[195] Delegating the bulk of responsibility enables the states to act as laboratories and to devise new ways to implement the goals set out in the National Plan.[196]

In sum, Rigs to Renewables should make use of the three-tiered structure underlying Rigs to Reefs because such a structure would provide clear roles for federal and state agencies.[197] An enabling statute like the NFEA would provide the legal authority for Rigs to Renewables.[198] A national plan would provide the details necessary to delineate the roles of federal agencies in the program.[199] Finally, state plans would allocate responsibility for implementing Rigs to Renewables among the state agencies, giving them the flexibility to respond to local conditions and adopt creative solutions to alternative energy development.[200]

C. *Improving the Rigs to Reefs Framework*

While Rigs to Renewables should adopt Rigs to Reefs' approach of delegating the bulk of responsibility to the states, the program should improve on the Rigs to Reefs framework in two ways. First, Rigs to Renewables should allow the ACE to delegate permitting responsibility to qualified states, which would likely process permits more efficiently

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[193] *Id.*

[194] *See id.* The Louisiana reefs may need to be modified to account for the difference in soil and topographic conditions between the Louisiana and Florida coasts. De Alessi, *supra* note 160, at 2–4. For example, it may be more difficult to anchor light reefs off of the Florida coast because the sandy ocean floor is less amenable to reef settling than the muddy ocean floor off of the Louisiana coast. *Id.*

[195] *See* La. Dep't of Wildlife & Fisheries, *supra* note 22, at 4; Reef Plan Revision, *supra* note 14, at 1.

[196] *See* La. Dep't of Wildlife & Fisheries, *supra* note 22, at 4; Mass. Div. of Marine Fisheries, *supra* note 88, at 30.

[197] *See* Reef Plan Revision, *supra* note 14, at 6–13.

[198] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. §§ 2101–2106 (2000).

[199] *See* Reef Plan Revision, *supra* note 14, at 4.

[200] *See, e.g.*, La. Dep't of Wildlife & Fisheries, *supra* note 22, at 4; Mass. Div. of Marine Fisheries, *supra* note 88, at 11–16.

than the ACE.[201] Second, the federal and state agencies governing Rigs to Renewables should regulate to encourage private parties to hold rig development permits.[202] The NFEA effectively limits the class of permit holders to public agencies, which limits Rigs to Reefs' impact because there are fewer participants in the program.[203] By giving greater responsibility to states and to private parties than they possess under Rigs to Reefs, Rigs to Renewables would increase program participation and enhance program effectiveness.[204]

1. Delegating Permitting Responsibility to the States

States could process permits more efficiently than the ACE.[205] Increased efficiency in permit processing would act as an incentive to potential permit holders to apply for permits.[206] Increasing the number of permit holders, in turn, would achieve a primary goal of Rigs to Renewables of utilizing the basic Rigs to Reefs model and expanding on the model's scope and effectiveness.[207]

While states do not have permitting power under Rigs to Reefs, other environmental programs allow the ACE to delegate its permitting power to the states.[208] For example, the ACE has delegated its wetlands permitting power under section 404 of the Clean Water Act (CWA) to the states of New Jersey and Michigan.[209] The CWA permitting program is similar to the structure of Rigs to Reefs in that both programs involve extensive cooperation between federal and state agencies.[210] Moreover, like Rigs to Reefs, the CWA relies on states to implement much of the program's federal guidelines and regulations.[211] Since the ACE dele-

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[201] *See* Am. Ass'n of State Highway & Transp. Officials, Delegation of Federal Environmental Responsibilities for Highway Projects 32 (2002) [hereinafter Delegation].

[202] *See* De Alessi, *supra* note 160, at 2–4.

[203] *See* 33 U.S.C. §§ 2101–2106; Mass. Div. of Marine Fisheries, *supra* note 88, at 37.

[204] *See* De Alessi, *supra* note 160, at 4.

[205] *See* Delegation, *supra* note 201, at 24–25, 32.

[206] *See id.*

[207] *See id.*

[208] *See id.* at iv; La. Dep't of Wildlife & Fisheries, *supra* note 22, at 19–20.

[209] Delegation, *supra* note 201, at 23. *See* Clean Water Act of 1977, 33 U.S.C. §§ 1251–1387, 1344(g) (2000). New Jersey and Michigan are the only states to which the ACE has delegated its full wetland permitting power. Delegation, *supra* note 201, at 23.

[210] *See* Delegation, *supra* note 207, at 23; Reef Plan Revision, *supra* note 14, at 9–11.

[211] *See* Delegation, *supra* note 201, at 23.

gated its CWA permitting power to New Jersey and Michigan, the permitting process in those states has improved.[212]

By giving states control of the permit process, while allowing the ACE to retain oversight, Rigs to Renewables would improve the efficiency of the Rigs to Reefs permit process, while still providing for the federal agency oversight.[213] Increased efficiency in the permit process likely would stimulate participation in Rigs to Renewables, particularly when coupled with regulations that encourage private parties to hold rig development permits.[214]

2. Encouraging Private Parties to Hold Rig Permits

Encouraging private parties to hold rig development permits not only may increase participation in Rigs to Renewables, it may stimulate innovation by private parties in reef development.[215] But in order to encourage private parties to participate, Rigs to Renewables would need to adopt less restrictive liability rules than Rigs to Reefs.[216] The NFEA requires a permit holder to demonstrate the financial ability to assume liability for all damages that may arise with respect to an artificial reef.[217] Requiring permit holders to assume all liability effectively precludes private parties from holding reef permits because most private parties are unwilling or unable to expose themselves to such financial risk.[218] By effectively excluding private parties from reef development, the NFEA eliminates a potential source of innovation and limits the effectiveness of Rigs to Reefs.[219] Rigs to Renewables should encourage innovation by allowing private permit holders to share liability exposure with the states instead of assuming all liability themselves.[220]

The state artificial reef programs in Alabama and Florida provide evidence of the positive impact of private innovation on state reef pro-

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[212] *Id.* at 24–25. Staff involved in both the New Jersey and Michigan permitting programs have found the permitting process to be more efficient and predictable than the permitting program run by the ACE. *Id.*

[213] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. §§ 2101–2106 (2000); DELEGATION, *supra* note 201, at 32.

[214] *See* DELEGATION, *supra* note 201, at 1; DE ALESSI, *supra* note 160, at 5.

[215] *See* DELEGATION, *supra* note 201, at 1; DE ALESSI, *supra* note 160, at 5.

[216] *See* DELEGATION, *supra* note 201, at 4; LA. DEP'T OF WILDLIFE & FISHERIES, *supra* note 22, at 19–20; REEF PLAN REVISION, *supra* note 14, at 37–39.

[217] 33 U.S.C. § 2104 (c)(3).

[218] MASS. DIV. OF MARINE FISHERIES, *supra* note 88, at 1, 37.

[219] MASS. DIV. OF MARINE FISHERIES, *supra* note 88, at 1, 37; DE ALESSI, *supra* note 160, at 5.

[220] *See* 33 U.S.C. § 2104 (c)(3); REEF PLAN REVISION, *supra* note 14, at 9.

grams.[221] Most states restrict reef development to state agencies.[222] However, Alabama and Florida allow private parties to develop artificial reefs in limited areas.[223] Private parties may construct and site reefs within these areas, but after construction is complete, the private parties must transfer title of the reefs to the state.[224] The state, as permit holder, then assumes all liability for the use of the reef as required under the NFEA.[225]

Allowing private parties to play a greater role in reef development and construction is a relatively minor innovation within the NFEA's restrictive liability rules.[226] Yet even this minor innovation has increased the scope and effectiveness of the artificial reef programs in Alabama and Florida.[227] Soon after Alabama began allowing private reef construction, the number of reefs developed off the Alabama coast skyrocketed.[228] Eventually the increase in the number of reefs led to a dramatic rise in the number of fish caught off of Alabama's shores, though surrounding states with more traditional reef programs experienced no such increases.[229] By allowing private parties to play a leading role in reef construction, Alabama was able to implement Rigs to Reefs' directive to enhance offshore fisheries more effectively than those states that relied solely on public agencies for reef development.[230]

While the success of the program in Alabama demonstrates the effectiveness of private participation, the liability rules set out in the NFEA limit the ability of state reef programs to increase private participation.[231] Private parties generally have been willing to participate in reef construction, but they have not been as willing to act as permit

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[221] De Alessi, *supra* note 160, at 2–4. Because there are fewer oil rigs off the Alabama and Florida coasts, many of the artificial reefs have been created from large sections of concrete and other construction materials rather than from rigs. *Id.* However, the effectiveness of private participation in reef development demonstrated by these states is applicable to renewable development using oil rigs. *See id.*

[222] *See* De Alessi, *supra* note 160, at 2; *see, e.g.*, La. Dep't of Wildlife & Fisheries, *supra* note 22, at 19–20.

[223] De Alessi, *supra* note 160, at 2–4.

[224] *See id.*

[225] 33 U.S.C. § 2104(c)(3).

[226] *See id.*; De Alessi, *supra* note 160, at 5.

[227] *See* De Alessi, *supra* note 160, at 2–4.

[228] *Id.*

[229] *Id.* For example, fishermen in Alabama caught the red snapper at a rate that was two to five times higher than any other Gulf Coast state for the same time period, even though Alabama occupies only one and a half percent of the Gulf coastline. *Id.*

[230] *See id.*

[231] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. § 2104 (2000); De Alessi, *supra* note 160, at 5; Reef Plan Revision, *supra* note 14, at 11.

holders because of the NFEA's requirement that permit holders accept all liability for potential damages involving a reef.[232]

If it were not for the NFEA's liability rules, private parties likely would apply for rig development permits because of the potential economic benefits of holding such permits.[233] Chief among these benefits would be the permit holder's exclusive right of access to the reef, for at least a period of time.[234] In contrast, even under the Alabama reef program, the only economic incentive to private participation is the informal guarantee that private participants will be the first to learn of newly constructed reefs and thereby can be the first to exploit them until the location of the reefs becomes known.[235]

Since allowing private parties to hold permits would benefit both private parties and the entire Rigs to Renewables program, Rigs to Renewables should restructure the NFEA's restrictive liability guidelines.[236] By creating liability rules that encourage private participation, Rigs to Renewables could allow states and private parties to innovate and increase the effectiveness of state programs.[237] Because Rigs to Renewables would be a cooperative effort between government and private groups, Rigs to Renewables should look to other public-private joint ventures in structuring its liability rules.[238] Other public-private joint ventures make use of shared liability to encourage private participation.[239] For example, both the United States and British governments provide terrorism reinsurance programs to stimulate industry participation and lower prices in the terrorism insurance market.[240] In the United States, private insurers assume all liability for terrorism damages up to a certain dollar amount.[241] Once that dollar amount is exceeded, private insurers split the excess liability costs evenly with the federal

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[232] *See* 33 U.S.C. § 2104(c)(3); De Alessi, *supra* note 160, at 4; Mass. Div. of Marine Fisheries, *supra* note 88, at 1, 37.

[233] *See* 33 U.S.C. § 2104(c)(3); De Alessi, *supra* note 160, at 4.

[234] *See* De Alessi, *supra* note 160, at 5.

[235] *Id.* at 2–4. This advantage disappears after reefs become widely known. *Id.* It is important to note that even under the Alabama plan, there are non-economic incentives for private participation as well as economic incentives. *Id.* at 3. For example, private reef development often prevents overfishing. *Id.* at 5.

[236] *See* 33 U.S.C. § 2104(c)(3); De Alessi, *supra* note 160, at 5.

[237] *See* De Alessi, *supra* note 160, at 5.

[238] *See id.* at 9; Reef Plan Revision, *supra* note 14, at 14.

[239] *See* La. Dep't of Wildlife & Fisheries, *supra* note 22, at 17–18; Mass. Div. of Marine Fisheries, *supra* note 88, at 8–10.

[240] *See* 33 U.S.C. §§ 2103–2104; Reef Plan Revision, *supra* note 14, at 22.

[241] *See* La. Dep't of Wildlife & Fisheries, *supra* note 22, at 2; Mass. Div. of Marine Fisheries, *supra* note 88, at 33.

government, again up to a certain dollar amount.[242] If that amount is surpassed, the federal government assumes all remaining liability for terrorism damages.[243] This system encourages private participation because private insurers can be certain of the extent of their liability, and can therefore more easily quantify their risk.[244]

Rather than requiring private permit holders to assume all liability themselves, Rigs to Renewables should utilize a similar system of shared liability to encourage private participation.[245] As permit holders, private parties should be required to assume all liability up to a certain dollar amount.[246] The states should assume any liability beyond that amount.[247] Unlike the Rigs to Reefs liability rules, in which private permit holders' liability is theoretically unlimited, such shared liability would encourage private parties to participate in Rigs to Renewables because their potential liability would be limited to a set dollar amount.[248] Increased private participation would stimulate innovation and enhance Rigs to Renewables' ability to promote alternative energy development.[249]

Conclusion

The Energy Policy Act of 2005 indicates that the regulatory climate surrounding renewable energy is as favorable as it has ever been. Rigs to Renewables would exploit the incentives for renewable energy provided by the Act, while minimizing NIMBY opposition and providing significant cost savings to oil industry donors. But, in addition to offering compelling political and economic incentives, Rigs to Renewables must also be based on a solid legal and regulatory framework to be successful in attaining its energy development goals. This framework must delineate public and private roles in the areas of agency jurisdiction, permitting authority, and legal liability, yet be flexible enough to respond to specific needs at the local level.

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[242] *See* De Alessi, *supra* note 160, at 5; Reef Plan Revision, *supra* note 14, at 25.

[243] *See* Delegation, *supra* note 201, at 4; La. Dep't of Wildlife & Fisheries, *supra* note 22, at 19–20.

[244] *See* De Alessi, *supra* note 160, at 5; Reef Plan Revision, *supra* note 14, at 25.

[245] *See* De Alessi, *supra* note 160, at 4; Reef Plan Revision, *supra* note 14, at 25.

[246] *See* Delegation, *supra* note 201, at 4; La. Dep't of Wildlife & Fisheries, *supra* note 22, at 19–20.

[247] *See* Delegation, *supra* note 201, at 6; La. Dep't of Wildlife & Fisheries, *supra* note 22, at 19–20.

[248] *See* National Fishing Enhancement Act of 1984, 33 U.S.C. §§ 2103–2104 (2000); Reef Plan Revision, *supra* note 14, at 22.

[249] *See* Delegation, *supra* note 201, at 4; La. Dep't of Wildlife & Fisheries, *supra* note 22, at 19–20.

Rigs to Renewables should adopt the Rigs to Reefs regulatory framework because that framework provides a clear delineation of roles and delegation of authority. National enabling legislation provides the legal authority for the program, and includes basic guidelines as to agency roles, permitting regulations, and liability. A national plan elaborates on the enabling legislation's basic guidelines, particularly as applied to the role of federal agencies in the program. The bulk of responsibility for implementing the program is delegated to the states. The states then promulgate state plans that allocate responsibility among the state agencies and respond to local conditions.

Rigs to Renewables should improve the Rigs to Reefs framework by allowing states greater flexibility to implement their own solutions to alternative energy development. Rigs to Reefs' rules regarding permitting authority and liability effectively preclude states from improvising and prevent private parties from participating in the program. Rigs to Renewables should adopt rules better suited to increase program participation and effectiveness. The program should allow states to assume full responsibility for permitting from the federal government, as is done under environmental statutes like the CWA. Additionally, Rigs to Renewables should encourage private parties to hold rig development permits by explicitly providing for such parties in its enabling legislation, and by endorsing a shared liability scheme similar to arrangements that exist in other public-private joint ventures. Incorporating the Rigs to Reefs framework with these key modifications will ensure that Rigs to Renewables is best able to achieve its goal of providing clean, independent sources of renewable energy.